Work Order ID 120243

Wednesday, June 04, 2014 2:59:44 PM

120243

Item ID: D4634-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Fwd, Center Ceiling Panel

Start Date: 6/10/14 **Start Qty:** 1.00 *1*

Required Date: 6/10/14 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Approvals: **Process Plan:** MLJ **Date:** 14-06-05 **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr / **Revision Nbr**: D4634 / F									
100		0.00							DAS 07 9-89
100	HAND FINISHING THERMOFORMING					x1			
Thermoform	**Memo**	0.00							14/06/10
Thermoforming Machine	Cut Blanks								
105		0.00							DAS 07 9-89
105	Dry Material					x1			
HandThermo	**Memo**	0.00							14/06/10
Hand Finishing Thermoforming	Dry Sheet as per QSI022 POLYCARBONATE								

Temp: ~~245 deg. F~~

Time IN: 5:00 PM

Time OUT: 6:00 AM

JUN 10 2014

Per.....

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric
- ☐ Cracks
- ☐ Crimp/Kink/Ripple/Wave
- ☐ Cuffs
- ☐ Crushing
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Marks/Chatter
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damage/Defect
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drawing
- ☐ Drill Holes
- ☐ Finish
- ☐ Fit/Function
- ☐ Folio/Program
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete/Unqualified
- ☐ Instructions Incomplete/Unclear
- ☐ Misaligned/off center
- ☐ Mislabeled
- ☐ Misread
- ☐ Off-set
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Item ID: D4634-1 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Fwd, Center Ceiling Panel
Start Date: 6/10/14 **Start Qty:** 1.00 *1* **Cust Item ID:**
Required Date: 6/10/14 **Req'd Qty:** 1.00 *1* **Customer:**
Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start** *NR1*
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							DAS 07 9-89
110	THERMOFORMING MACHINE.					x1			
Thermoform	**Memo**	0.00							
Thermoforming Machine	Thermoform as per Dwg. D4634-1 and Folio FTA144								14/06/10
	Dwg. Rev. F								
	Folio Rev. E								
	NOTE: Check moulds prior to using to ensure proper placement of add-ons.								
	Visually inspect for proper formation and texture								
130		0.00							
130	HAND FINISHING THERMOFORMING					x1			DL
Thermoform	**Memo**	0.00							
Thermoforming Machine	Trim to Finished Dimensions								14/06/16.

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

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Landing Gear

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☐ Marks/Chatter
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General

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☐ Countersink
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☐ Drill Holes
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☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge

☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other

Item ID: D4634-1 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Fwd, Center Ceiling Panel
Start Date: 6/10/14 **Start Qty:** 1.00 *1*
Required Date: 6/10/14 **Req'd Qty:** 1.00 *1*
Reference:
Cust Item ID:
Customer:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	QC6- Inspect dimensions to drawing	0.00							
140	Dimensional Inspection					(1)	SAD	14/05/07	
QC	**Memo**	0.00							
Quality Control	Fill in Inspection Sheet Rev A								
150	QC5- Inspect part completeness to step on W/O	0.00							
150									
QC	**Memo**	0.00							
Quality Control									
160		0.00							
160	Packaging					(1)	SAD	14/07/07	
Packaging	**Memo** Section MF	0.00							
Packaging									

DAS 27 9-89

DQA: _____ Date: _____

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DART AEROSPACE

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Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

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☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other

Item ID: D4634-1 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Fwd, Center Ceiling Panel

Start Date: 6/10/14 **Start Qty:** 1.00 *1*
Required Date: 6/10/14 **Req'd Qty:** 1.00 *1*
Reference:

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	QC21- Final Inspection - Work Order Release	0.00							
170 QC Quality Control	**Memo**	0.00							

MLS 14-07-08

14-78

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
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AGAINST DEPARTMENT/PROCESS

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Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design ☐									
Doc/Data ☐									
Equip/Tooling ☐									
Handling/Pre ☐									
Material ☐									
Operator ☐									
Offset/Setup ☐									
Process ☐									
Supplier ☐									
Training ☐									
Transport ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear

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☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

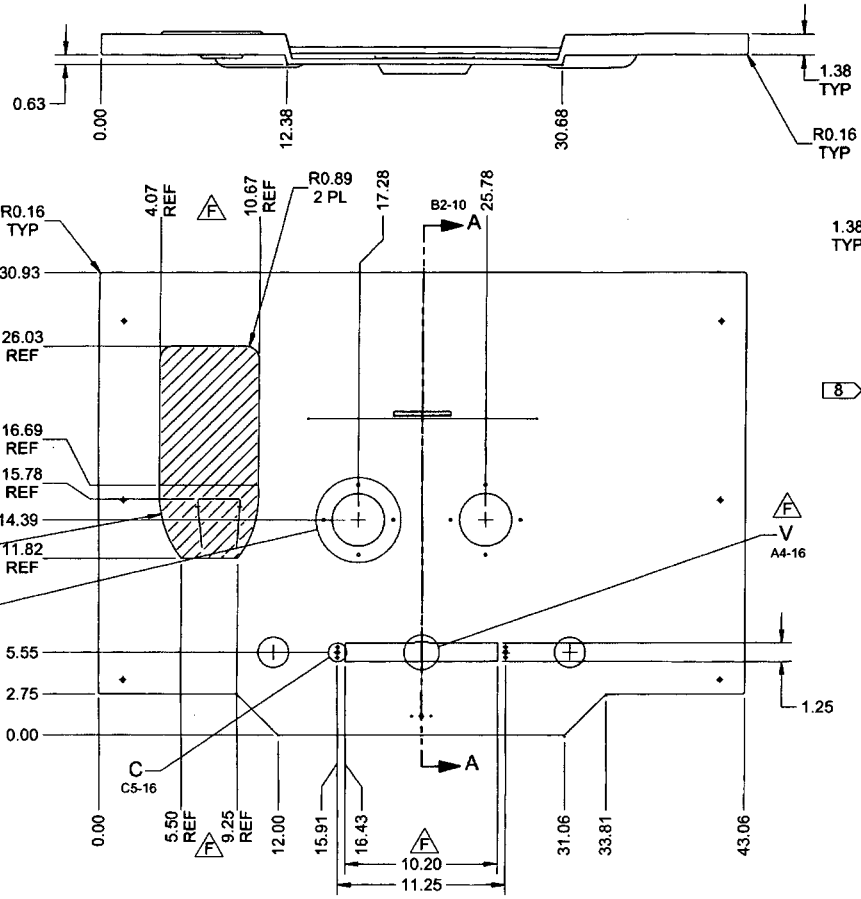
☐ Bend
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☐ Finish
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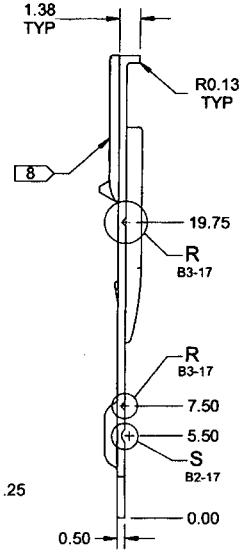
☐ Folio/Program
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☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence

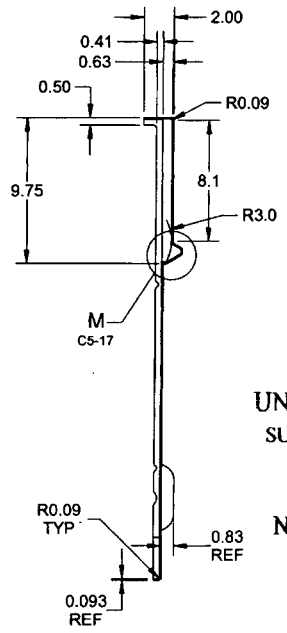
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
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☐ Part Moved
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☐ Power Loss/Surge

☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other _____







SECTION A-A C6-10

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 120243 MCS
14-06-05

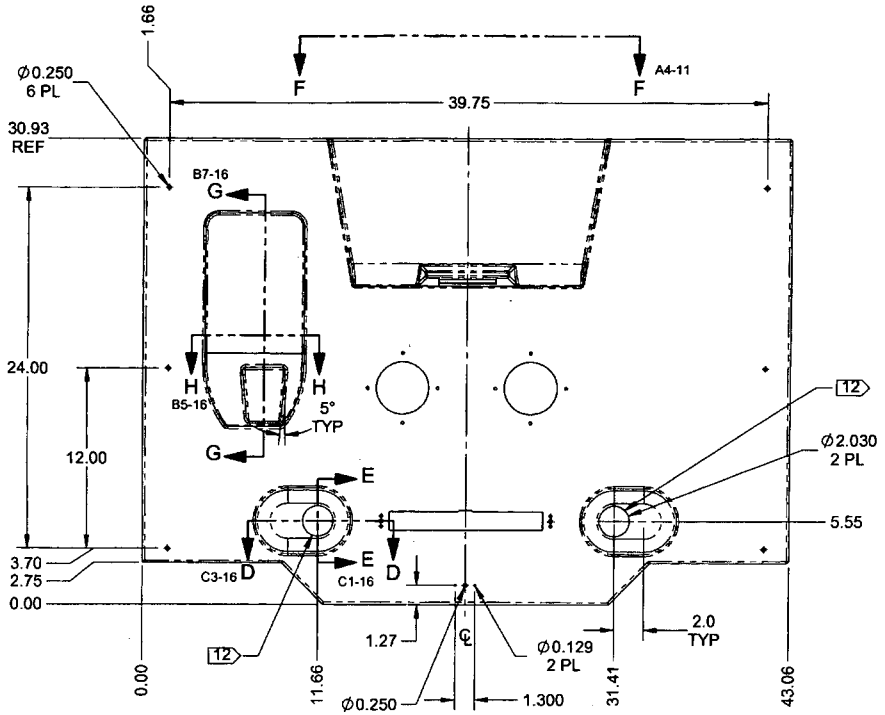
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2014 FEB 25

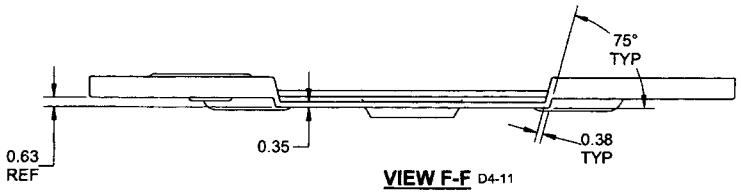
NOTES:
1) MATERIAL: F6006 SUEDE/POLISHED GY5B133 LIGHT GREY LEXAN SHEET 0.093 THICK
(REF DART SPEC MLEXS.093-F6006-07)
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 5.65 lbs
8) TEXTURE ON THIS SIDE
9) 0.14 RADIUS NOT SHOWN FOR CLARITY
10) DRILL & TRIM D4634-1 PER TOOL DT9836
11) THERMOFORM PER QSI 022 USING DT9844 TOOL
MIN. THICKNESS AFTER FORMING:
SHADED AREA = 0.020
EDGES = 0.060
ELSEWHERE = 0.070
12) LOCATE ϕ2.030 AT CENTER OF PROTRUDED SURFACE AS SHOWN

D4634-1 FWD, CENTER CEILING PANEL

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	BC	DRAWING NO. D4634 REV. F
MFG. APPR.		SHEET 10 OF 17
APPROVED		TITLE CENTER CEILING PANELS SCALE NTS
DE APPR.		
DATE 14.02.03		

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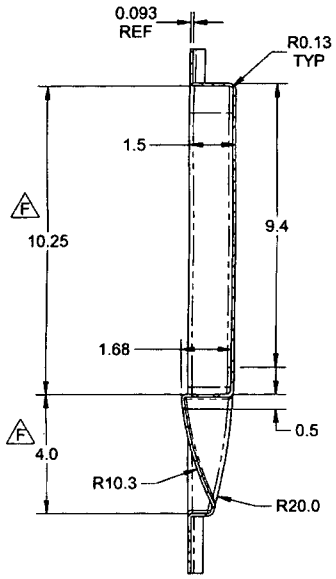
VIEW F-F D4-11

RELEASED
2014 FEB 25

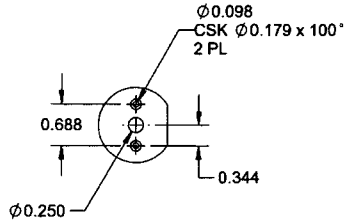
D4634-1 FWD, CENTER CEILING PANEL
AUXILIARY VIEW

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED		DRAWING NO. REV. F
MFG. APPR.		D4634 SHEET 11 OF 17
APPROVED		TITLE SCALE
DE APPR.		CENTER CEILING PANELS NTS
DATE	14.02.03	

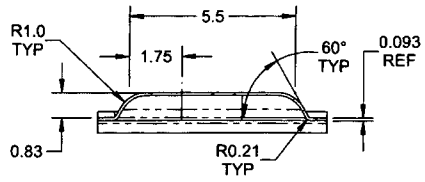
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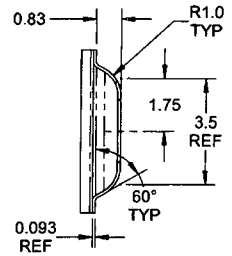
SECTION G-G C5-11
SCALE 4X



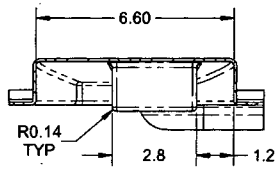
DETAIL C B7-10 B4-12 B4-14
SCALE 4X



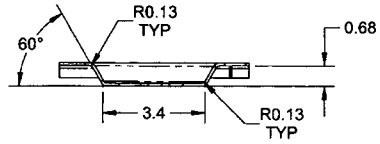
SECTION D-D B6-11 C4-13 C4-15
SCALE 2X



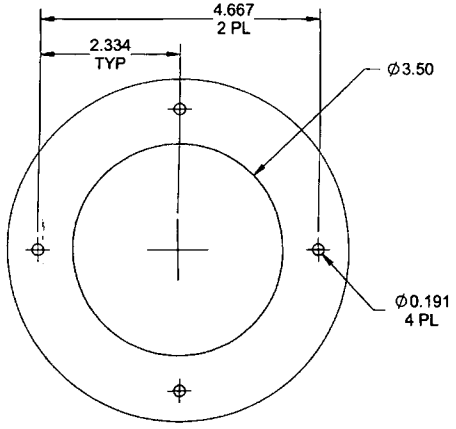
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SCALE 4X



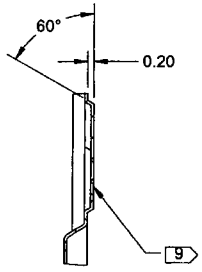
SECTION H-H C5-11
SCALE 2X



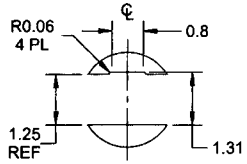
SECTION J-J B6-13
SCALE 2X



DETAIL B B7-10
SCALE 4X
2 PL



DETAIL L B2-13 C2-13 B2-14 C2-14
SCALE 4X
TYP

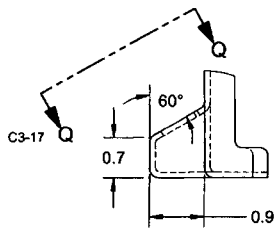


DETAIL V C4-10 B4-12 C4-14
SCALE 2X
SIMILAR

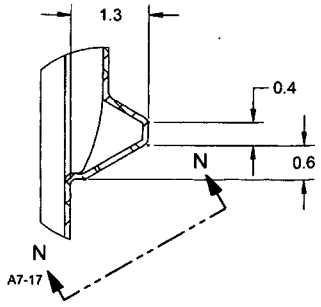
RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD**	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D4634	SHEET 16 OF 17
APPROVED		TITLE	SCALE
DE APPR.		CENTER CEILING PANELS	NTS
DATE	14.02.03		

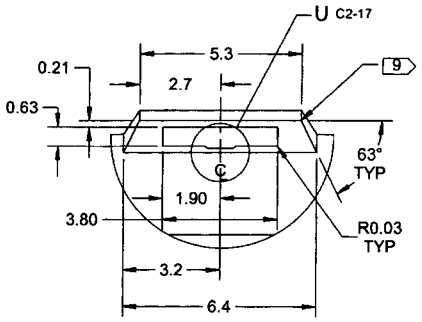
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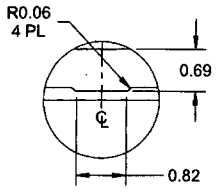
DETAIL P B3-14
SCALE 2X



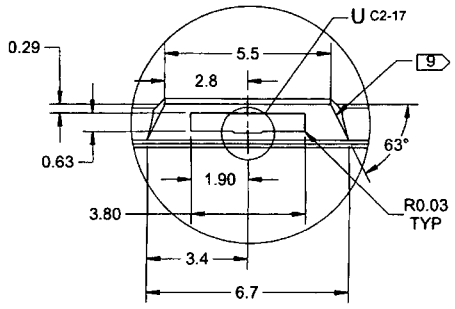
DETAIL M C3-10
SCALE 2X



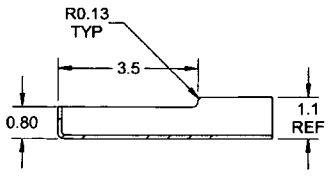
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SCALE 0.5X



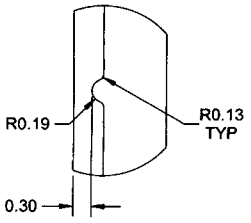
DETAIL U B7-17 D3-17
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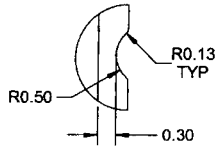
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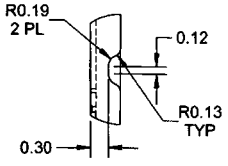
SECTION O-O B6-14
SCALE 1.3X



DETAIL R B3-10 C3-10 B2-12
SCALE 4X



DETAIL S B3-10 C2-12
SCALE 4X



DETAIL T C2-14
SCALE 4X

RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D4634 REV. F
CHECKED	BC	SHEET 17 OF 17
MFG. APPR.		TITLE CENTER CEILING PANELS SCALE NTS
APPROVED		
DE APPR.		
DATE	14.02.03	

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DART AEROSPACE LTD

Description: Fwd Center Ceiling Panel		Work Order: 120243
Inspection Drawing: 4634-1	Rev: F	Part Number: D4634-1

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
12.00	+/-0.030	12.00	✓		M-T	SEAB-21
24.00	+/-0.030	24.00	✓		"	↓
39.75	+/-0.030	39.75	✓		"	
11.66	+/-0.030	11.66	✓		"	
31.41	+/-0.030	31.41	✓		"	↓
1.300	+/-0.010	1.300	✓		VEM	SEAB-05
Ø0.250	+0.005 -0.001	Ø0.250	✓		↓	↓
Ø2.030	+0.012 -0.001	Ø2.030	✓			
4.667	+/-0.010	4.667	✓			
2.334	+/-0.010	2.334	✓			
Ø3.50	+/-0.010	Ø3.50	✓			
Ø0.191	+0.005 -0.001	Ø0.191	✓			
3.80	+/-0.030	3.80	✓			
0.63	+/-0.030	0.63	✓			
1.25	+/-0.030	1.25	✓		↓	↓
10.20	+/-0.030	10.20	✓		M-T	SEAB-21
11.25	+/-0.030	11.25	✓		"	"

Measured by: SM Date 14/07/07	Checked By: DAS 27 9-89 Date 14-7-7	QC inspector: DAS 27 9-89 Date 14-7-7	Engineering Approval (*if necessary*): Date